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THE CITY OF SAN DIEGO

MEMORANDUM

July 7, 2009

TO: Honorable Councilmember Donna Frye, District 6
via Honorable Mayor Jerry Sanders

FROM: Jim Barrett, Director of Public Utilities

SUBJECT: Disinfection and Flushing of Water Mains

This is in response to your memorandum dated May 27, 2009 requesting an update on potential water saving alternatives related to the disinfection and flushing of water mains - in light of the Level 2 Drought Alert Condition now in effect.

As you know, water main flushing is necessary for several reasons including disinfection of new water mains and recently repaired water mains. Due to health reasons, super-chlorinated water, which is used to disinfect the new or repaired pipelines, cannot be delivered directly to customers and therefore needs to be de-chlorinated and flushed out of the system before being discharged to the environment. Flushing is also required to resolve water quality issues in the water distribution system due to stagnated water, potential contamination, removal of bio-film and sedimentation, and dirty water complaints due to sediments and corrosion residues in the pipes.

Overall, flushing requirements make the capture and use of released flows difficult, particularly in cases of large diameter water mains. The location, volume and velocity of released water are already managed to avoid flooding of streets, erosion, excessive saturation of grounds, and damage to plants and streambeds. Generally, water is discharged to storm drains and in most areas these storm drains discharge to natural streambeds helping to recharge groundwater and maintain riparian habitats in local canyons and creeks. Accordingly a portion of the water released due to flushing is beneficially used.

The Public Utilities Department has evaluated options to reuse and/or decrease the amount of water used for flushing. We have also contacted various water supply agencies, and the California Department of Public Health (DPH) for input. DPH has indicated that there is currently no approved method to capture, treat, and reuse flushed water for potable use due to water quality concerns. Some local water agencies have instead opted to educate and provide flushing program information to the public and customers in the form of flyers and mailings to make them aware of the water quality needed for an effective water flushing program. The Engineering and Capital Projects Department (E&CP) has also utilized this approach by revising

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the attached general notification letter which is sent to the property owners near/adjacent to water main construction activity to educate and provide information on the flushing requirements.

The Public Utilities Department is also working closely with E&CP to track, reduce, and limit the amount of water necessary to meet water quality requirements for new mains. E&CP has implemented a tracking form, to be used by contractors, to meter flushing water. This information will be used to more accurately determine if appropriate or excessive flushing water is being used. This information may also be used to revise contract documents and specifications related to flushing.

At this time, there continue to be no cost effective alternatives to the flushing policy. The Public Utilities Department estimates a cost of \$200 to capture and transport 4,000 gallons (tank truck) of flushed water. This \$200 cost would save only \$15.56 worth of water at the City's commercial/industrial retail rate (5.35 HCF at \$2.908/HCF). It is estimated, that for an average flushing event, 18 truck loads would be required to capture the flushed water. This would be at a cost of \$3,600 for the capture of \$280 worth of water. Increased project impacts to the community due to increased traffic, pollution and noise would also result from such trucking activities.

Other options, such as providing the water to parks and/or residences would require extensive coordination and inspection. This is to ensure the water is not used for potable purposes and does not negatively impact the environment or vegetation, as can occur with overwatering or applying the water at an unsteady or excessive rate which can lead to erosion and damage to parks and/or private property.

The Public Utilities Department is open to any and all new ideas which may reduce the need for water main flushing and/or help to recycle the released water and will continue to work with designers, contractors, other water agencies and other City departments to seek opportunities to minimize the amount of flushing water utilized. Please let me know if you need any further information.



J.M. Barrett

Director of Public Utilities

JF/ah

Attachment: Public Notice Letter

cc: Honorable City Councilmembers
Andrea Tevlin, Independent Budget Analyst

Date _____

Dear Property Owner(s) or Valued Customer: (Choose One)

Subject: _____

The City of San Diego is pleased to announce that the water and wastewater system in your community will be upgraded in the coming months. The improvements will include the replacement of outdated concrete sewer mains and cast iron water mains that have reached the end of their service life. These mains will be replaced with state-of-the-art materials that are far more resistant to deterioration, breaks, and blockage. For your convenience, a location map illustrating the project area is on the reverse side of this notice.

The following is important information regarding the project that is coming to your neighborhood:

Project Name: _____

Estimated Project Start Date: _____

Estimated Project Completion Date: _____

For more information on this project please call:

Water & Wastewater Group Job Information Line: (858) 573-5081

City of San Diego Resident Engineer: _____ @ (***) ***-****

Water Department's 24-hour Emergency Services: (619) 515-3525

In light of the current Water Emergency, we are taking steps to minimize the amount of water used throughout the construction process. However, in order to ensure that newly installed pipelines meet health and safety standards, you may observe water being discharged as part of the decontamination process prior to the pipeline being connected to the water system. We are working with the construction industry to ensure that water is used as efficiently as possible throughout this process.

Please call to report a water main break (including leaking temporary water pipes), or a sewer main break.

If you have questions or concerns about the scope of work of this project, please call the Group Job Information Line. If you are interested in attending an on-site meeting to address your questions regarding this project, please call the Resident Engineer. In addition, answers to frequently asked questions about water and sewer main replacement projects can be found on the City of San Diego's website at <http://www.sandiego.gov/water/cip/group.shtml> by selecting *Frequently Asked Questions about Group Jobs*.

Thank you for your patience and cooperation during the construction of this capital improvement project.

Project Engineer